INSTRUCTIONS

-J05267 REV. 2011-11-10

BOOM! AUDIO FAIRING AMPLIFIER KIT

GENERAL

Kit Number

76000169

Models

For model fitment information, see the P&A retail catalog or the Parts and Accessories section of www.harley-davidson.com (English only).

Installation Requirements

Models **(except FLTRU)** not equipped with a Non-Ultra Overlay Harness (Part No. 70169-06) will require the separate purchase of a Radio Wire Harness (Part No. 69200106).

FLTRU models require no additional harness.

Loctite® 243 Medium Strength Threadlocker and Sealant - Blue (Part No. 99642-97) is required for proper installation of this kit.

Additional conduit may be needed to protect wiring in some installations.

⚠WARNING

The rider's safety depends upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333a)

NOTE

This instruction sheet refers to service manual information. A service manual for this year/model motorcycle is required for this installation and is available from a Harley-Davidson dealer.

Electrical Overload

NOTICE

It is possible to overload your vehicle's charging system by adding too many electrical accessories. If the combined electrical accessories operating at any one time consume more electrical current than the vehicle's charging system can produce, the electrical consumption can discharge the battery and cause damage to the vehicle's electrical system. See an authorized Harley-Davidson dealer for advice about the amount of current consumed by additional electrical accessories or for necessary wiring changes. (00211c)

⚠WARNING

When installing any electrical accessory, be certain not to exceed the maximum amperage rating of the fuse or circuit breaker protecting the affected circuit being modified. Exceeding the maximum amperage can lead to electrical failures, which could result in death or serious injury. (00310a)

This amplifier requires up to **11 amps** additional current from the electrical system.

Kit Contents

See Figure 3 and Table 2.

PREPARATION

NOTE

For 2007 and later vehicles equipped with security siren:

- *Verify that the Hands-Free Fob is present.*
- *Turn the ignition key switch to IGNITION.*

⚠WARNING

To prevent spray of fuel, purge system of high-pressure fuel before supply line is disconnected. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00275a)

See the service manual to purge the fuel supply of high pressure gasoline and remove the fuel supply line.

Battery Disconnection:

1. See the service manual and remove the main fuse.
2. Turn the ignition key switch OFF.
3. See the service manual and remove the seat. Retain all seat mounting hardware.
4. **For 2008 and later models:** See the service manual to remove the ECM caddy from the top of the battery.

⚠WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect battery cables (negative (-) cable first) before proceeding. (00307a)

⚠WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

5. **For ALL models:** Disconnect the battery cables, negative (-) cable first.
6. See the service manual to remove the fuel tank console and fuel tank.

AMPLIFIER INSTALLATION

1. See the service manual to remove the outer fairing.
2. See Figure 3. Apply a few drops of Loctite 243 - Blue to the screw (3) and stud (A) threads.

   Install the amplifier (1) onto the amplifier bracket (2), in the orientation shown, with two hex head screws (3), four plain washers (6), four lockwashers (5) and four hex nuts (4) from the kit. Tighten to 84-108 **in-lbs** (9.5-12.2 N-m).
3. Remove the flanged nuts (B) from the two studs (C) on the clutch-lever side of the radio carrier bracket.

NOTE

*Refer to the service manual for instructions on re-using fasteners with **threadlocking agents**.*

4. Install the amplifier and bracket onto the radio carrier bracket mounting studs (C).

   Loosely install the left-side turn signal and hand tighten the turn signal nuts to secure the lower portion of the amplifier bracket.
5. Apply a few drops of Loctite 243 - Blue to the **clean** stud threads. Install the flanged nuts (B) onto the studs, and tighten to 84-108 **in-lbs** (9.5-12.2 N-m).

HARNESS ROUTING AND CONNECTION

NOTE

*Electrical connectors are identified in the service manual by the numbers and letters shown here **within brackets**.*

1. See Figure 1. Locate the black six-way Deutsch socket housing [6B] (1) on the vehicle fairing/interconnect harness, mounted to the left fairing support, below the radio.
2. If socket housing [6B] **is NOT connected** to an audio harness:
   a. get a Radio Wire Harness (Part No. 69200106, purchased separately).
   b. Route the shorter branch of the radio wire harness (with a six-way pin housing and yellow/orange and yellow/violet wires), over to the area of socket housing [6B] (1), but **do not** connect at this time. This pin housing (14) will now be known as connector [6A].

   If socket housing [6B] **IS connected** to an audio harness, unplug the connector halves.

   If cavities 4 and 5 of socket housing [6B] are **populated** with wires:
   a. Get the amplifier harness (2) from the kit, and two **blue** sealed splice connectors (Part No. 70586-93, purchased separately).
   b. Follow service manual instructions to splice the **yellow/orange** terminated wire (4) from the amplifier harness into the yellow/orange wire coming from cavity 4 of socket housing [6B] (1).
   c. Splice the **yellow/violet** terminated wire (5) into the yellow/violet wire coming from cavity 5.

   If cavities 4 and 5 of socket housing [6B] are **empty**:
   a. Remove the secondary locking wedge from socket housing [6B] on the vehicle fairing/interconnect harness per service manual instructions.
   b. Remove the plugs from cavities 4 and 5.
   c. Get the amplifier harness (2) from the kit.
   d. Follow service manual instructions to install the **yellow/orange** terminated wire (4) from the amplifier harness into cavity 4 of socket housing [6B] (1).
   e. Install the **yellow/violet** wire (5) into cavity 5.
   f. Install the secondary locking wedge into the socket housing per service manual instructions.
3. Plug the six-way socket housing [6B] into the pin housing [6A] (14) on the radio wire harness (12) installed earlier or the vehicle audio harness pin housing [6A].

SPEAKER WIRING

Follow service manual instructions to remove the plugs from cavities 8, 15, 22 and 23 of the 23-way connector [149B] (3) on the amplifier harness. Retain the plugs for later installation.

Proceed to the correct section that follows:

- For models with ONLY FRONT FAIRING speakers.
- For models with ADDITIONAL speakers installed.

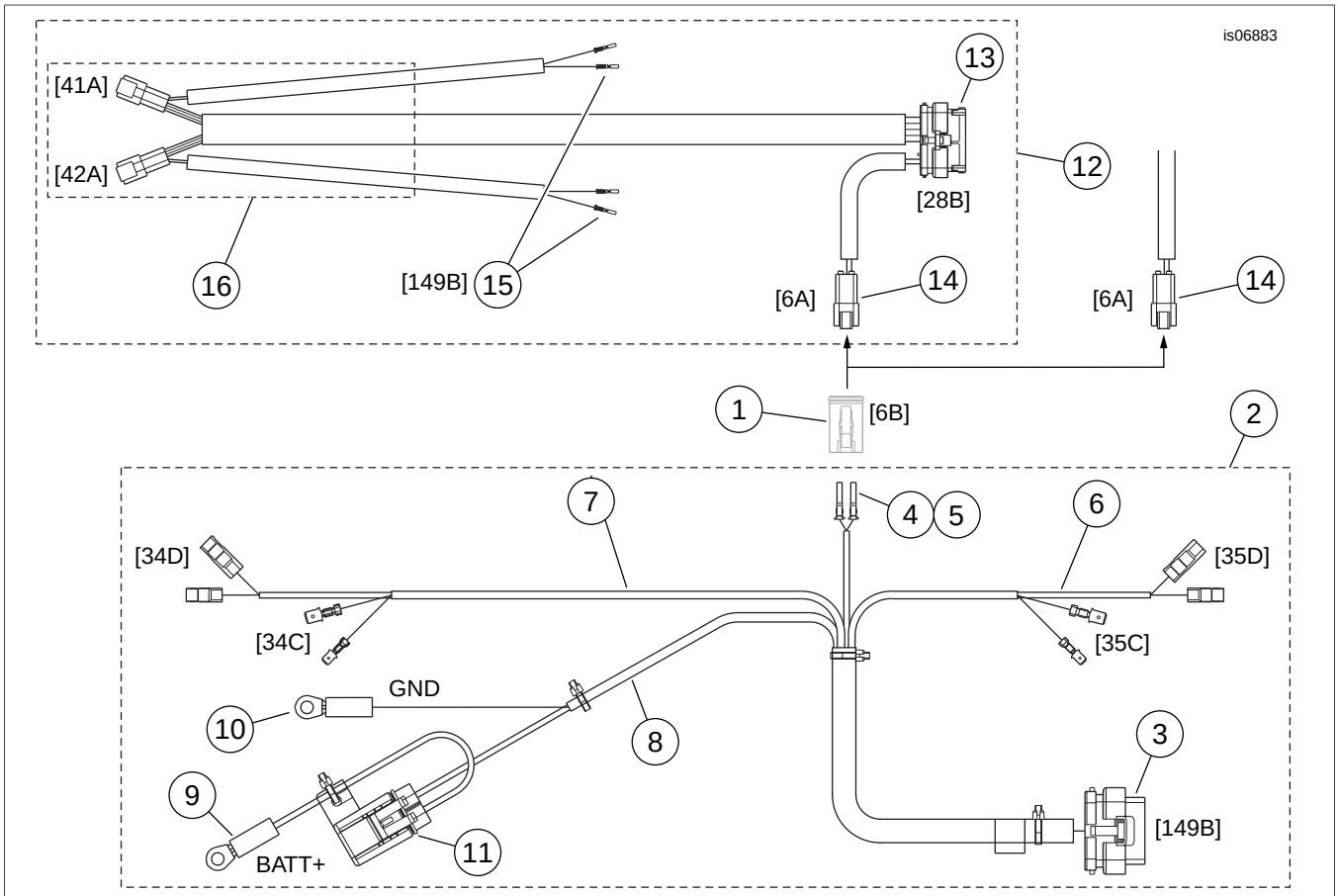
For Models With ONLY FRONT FAIRING Speakers:

1. Install the terminated wires (15) coming from the two six-way connectors (16) on the radio wire harness to amplifier harness connector [149B] as shown in Table 1. This will enable installation of an additional pair of speakers, such as fairing lowers, saddlebag or Tour-Pak® speakers.
2. Proceed to **For ALL Models**.

For Models with ADDITIONAL Speakers Installed

1. Unplug the 35-way connector [28B] on the right side of the radio.

   Locate two twisted wire pairs, one brown and white/brown, the other green and light green/brown, in the connector.
2. See the service manual and remove the twisted wires and terminals from cavities 1, 2, 24, and 25 of connector [28B].
3. Extract at least 12 inches (30.5 cm) of the twisted wire pairs from the main wire harness conduit, allowing enough for them to easily reach the amplifier.
4. Insert the seal pins removed earlier from amplifier harness connector [149B] into the now-empty cavities in connector [28B].
5. Re-tape and secure the main wire harness. Additional purchase of conduit is suggested to protect the twisted wire pairs.
6. Install the terminated wires from radio connector [28B] to the 23-way amplifier connector [149B] as shown in Table 1. This will enable amplification of the additional speakers.
7. Proceed to **For ALL Models**.



1. **Six-way socket housing [6B]**
2. **Amplifier harness**
3. **23-way connector [149B]**
4. **Yellow/orange terminated wire**
5. **Yellow/violet terminated wire**
6. **To left-side speaker**
7. **To right-side speaker**
8. **Battery branch of harness**
9. **Red wire**
10. **Black wire**
11. **Fuse holder**
12. **Radio wire harness**
13. **35-way connector [28B]**
14. **Six-way pin housing [6A]**
15. **Insert into 23-way connector [149B] on amplifier harness**
16. **Unconnected wiring**

Figure 1. Harness Connection Diagram, Fairing Mounted Amplifier

For ALL Models

Table 1. Harness Wire Connections

Wire Color	To Connector [149B], Cavity
Brown	8
White/brown	15
Green	22
Light green/brown	23

1. Visually inspect the front of connectors [28B] and [149B] to make sure the terminals are fully seated before closing the red connector locks.
2. Plug the 35-way connector [28B] into the receptacle on the back of the radio. Listen for a definite "click".

   Plug the 23-way connector [149B] into the amplifier. Listen for a definite "click".

NOTE

Two branches of the amplifier harness, each with two socket and two spade terminals, connect to the front speakers.

3. Route the short branch (6) of the amplifier harness (with white/orange and light-green/white wires) over to the left-side speaker.
4. Carefully disconnect the interconnect harness socket terminals from the left-side speaker spade terminals.

5. Install the socket terminals from the amplifier harness to the speaker spade terminals. The spade terminals are different-sized to prevent improper assembly.
6. Install the spade terminals from the amplifier harness to the socket terminals from the interconnect harness. The spade terminals are different-sized to prevent improper assembly.
7. Route the long branch (7) of the amplifier harness (with gray/red and light-green/black wires) to the right-side speaker.
8. Carefully disconnect the interconnect harness socket terminals from the right-side speaker spade terminals.
9. Install the socket terminals from the amplifier harness to the speaker spade terminals. The spade terminals are different-sized to prevent improper assembly.
10. Install the spade terminals from the amplifier harness to the socket terminals from the interconnect harness. The spade terminals are different-sized to prevent improper assembly.
11. See Figure 1. Use a cable strap from the kit to coil the unconnected wiring (16) of the radio wire harness.

    Optionally, the brown and white/brown wires and their connector [42A] can provide a signal to an additional left speaker. The green and green/brown wires and their connector [41A] can provide a signal to an additional right speaker.

NOTE

Do not bind the long branch (8) of the amplifier harness inside the fairing in the next step.

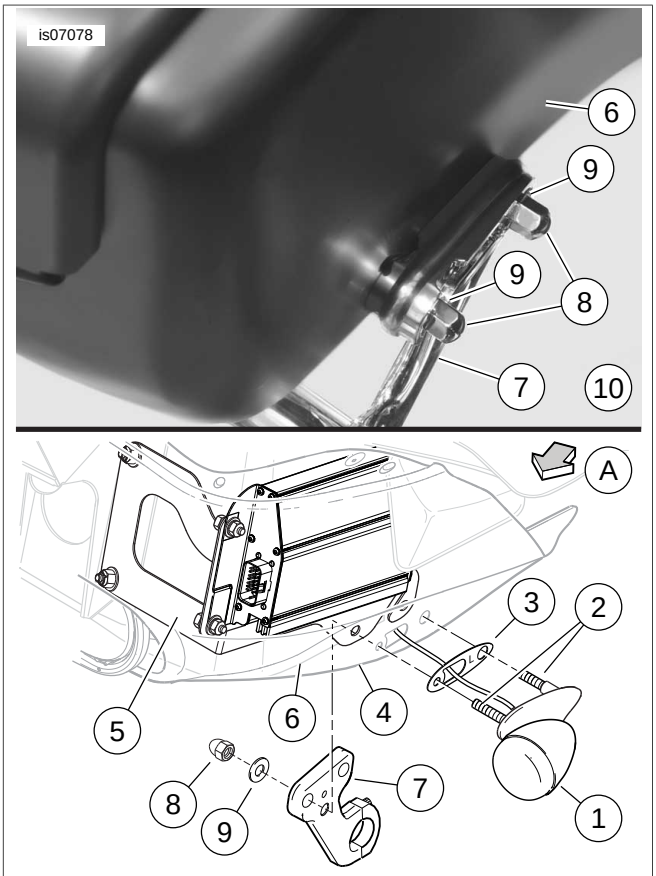
12. Use cable straps from the kit to fasten the amplifier and radio harnesses to existing harnesses inside the fairing.
13. Route the long branch (8) of the amplifier harness through the center of the radio carrier bracket and rearward to the harness tray. Open the cover of the harness tray. Route the amplifier harness through the openings in the tray, using cable straps to fasten to the main harness.

⚠WARNING

Be sure that steering is smooth and free without interference. Interference with steering could result in loss of vehicle control and death or serious injury. (00371a)

- **Be sure wires do not pull tight when handlebars are turned fully to left or right fork stops.**

14. Route the harness along the right side of the battery cavity. Bring the red fuse wire (9) and black ground wire (10) into the front of the battery compartment.



1. **Left-side front turn signal lamp**
2. **Turn signal lamp mounting stud (2)**
3. **Gasket**
4. **Outer fairing**
5. **Amplifier and bracket**
6. **Inner fairing**
7. **Lower fairing mount**
8. **Acorn nut (2)**
9. **Flat washer (2)**
10. **View of turn signal bracket and inner fairing in direction of arrow A**

Figure 2. Turn Signal Assembly to FLTR Fairings

OUTER FAIRING INSTALLATION

1. See Figure 2. Install the outer fairing per service manual instructions, with the following exceptions:
   a. Before resting the outer fairing on the protected front fender, remove the left-side turn signal lamp (1) loosely installed earlier.
   b. After final tightening the six screws holding the inner and outer fairings together, install the left-side front turn signal lamp studs (2) through the holes in the turn signal lamp gasket (3), outer fairing (4), amplifier bracket (5), and inner fairing (6), guiding the turn signal wires into the relief slot in the lower fairing mount (7).
   c. Install the acorn nuts (8) and flat washers (9) onto the turn signal studs, but do not fully tighten at this time.
   d. Install the right-side turn signal lamp in the same manner.
   e. Tighten the turn signal acorn nuts to 60-84 **in-lbs** (6.8-9.5 Nm).

RETURN TO SERVICE

NOTE

*To prevent possible damage to the sound system, verify that the ignition key switch is in the OFF position **before** attaching the battery cables.*

⚠WARNING

Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)

1. Connect the battery as follows:
   a. Install the red battery positive (+) cable terminal to the positive (+) side of the battery, followed by the amplifier harness fused red wire terminal.
   b. Install the black battery negative (-) cable terminal to the negative (-) side of the battery, followed by the amplifier harness black ground wire terminal.
   c. See Figure 1. Tuck the fuse holder (11) and amplifier connecting wires in front of the battery.

      NOTE: It may be helpful to cut the cable strap on the strain relief arm of the fuse holder, and install a new cable strap to tie the arm in place after the fuse holder is in position.

   d. **For 2008 and later models:** Be sure that all wire terminals connected to the battery are aligned with the openings in the ECM caddy.

      Refer to the service manual and follow the instructions to install the ECM caddy to the top of the battery.

   e. **For ALL models:** Install the main fuse per service manual instructions.
2. Test the sound system for proper operation. If no sound, proceed to **TROUBLESHOOTING**.
3. Upon satisfactory sound system operation, install the outer fairing and windshield per service manual instructions.
4. Disconnect the amplifier harness black ground wire terminal and negative (black) battery cable from the negative (-) battery terminal.
5. Refer to the service manual, and follow the instructions to install the fuel tank and console. Attach the negative battery cable and amplifier ground terminals.
6. Apply a light coat of Harley-Davidson electrical contact lubricant (Part No. 99861-02), petroleum jelly or corrosion retardant material to the battery and amplifier harness terminals.

⚠WARNING

After installing seat, pull upward on seat to be sure it is locked in position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070b)

7. See the service manual and install the seat.

TROUBLESHOOTING

No Sound.

1. Verify the wire connections at [6A] and [6B]. Make sure that the yellow/orange wires are installed in cavity 4 of both connector halves, and yellow/violet in cavity 5.
2. At each connector involved in the installation:

- Make sure all pin and socket terminals are fully seated at the mating face of the connector, and that they have not pushed back upon installation into the mating connection.
- Gently tug on each wire individually from the rear of the connector to find any that are not seated in their lock.

SERVICE PARTS

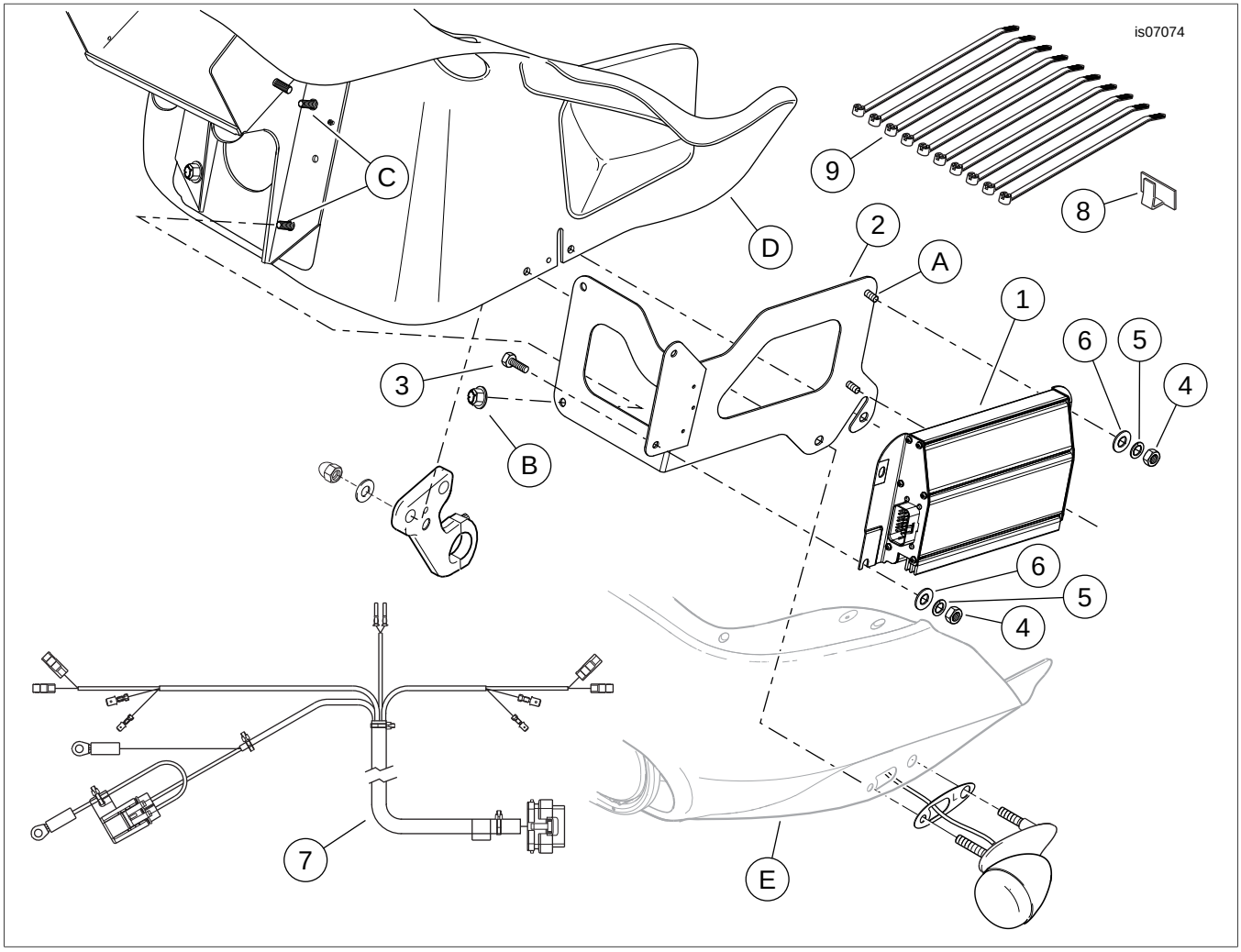


Figure 3. Service Parts, Boom! Audio Amplifier Kit

Table 2. Service Parts

Item	Description (Quantity)	Part Number
1	Amplifier, fairing mounted	76192-06B
2	Bracket, fairing mounted amplifier	Not sold separately
3	Cap screw, hex head, 1/4-20 x 0.62 in (16 mm) long (2)	3767B
4	Hex nut, 1/4-20 (4)	7688
5	Lockwasher, split, 1/4 in (4)	7036
6	Plain washer, 1/4 in (4)	6703
7	Harness, amplifier	Not sold separately
8	Clip, metal, adhesive back, 0.62 in (16 mm)	10103
9	Cable strap (10)	10006
Items mentioned in text, but not included in kit:		
A	Amplifier mounting stud (2)	
B	Radio carrier bracket mounting nut (4)	
C	Fairing bracket stud (4)	
D	Inner fairing	
E	Outer fairing	